

WHAT IS CLAIMED IS:

- 1        1. A heat resistant laminated conveyor belt comprising a belt  
2 core layer made by a heat resistant non-metallic fiber substrate being  
3 impregnated with a fluororesin dispersion and then dried and sintered  
4 and a surface layer formed on said belt core layer via an adhesive layer  
5 made by a fluororesin film, said surface layer having a fabric structure  
6 using an element wire or wires made of a ferrous metal or having a  
7 structure in which said element wire or wires are arranged together.
- 1        2. A heat resistant laminated conveyor belt comprising a belt  
2 core layer made by a heat resistant non-metallic fiber substrate being  
3 impregnated with a fluororesin dispersion and then dried and sintered  
4 and a surface layer formed on said belt core layer via an adhesive layer  
5 made by a fluororesin film, said surface layer having a fabric structure  
6 using an element wire or wires made of at least one of a non-ferrous  
7 metal, inorganic compound, organic compound and carbon or having a  
8 structure in which said element wire or wires are arranged together.
- 1        3. A heat resistant laminated conveyor belt comprising a belt  
2 core layer made by a heat resistant non-metallic fiber substrate being  
3 impregnated with a fluororesin dispersion and then dried and sintered,  
4 an intermediate layer laminated on said belt core layer via an adhesive  
5 layer made by a fluororesin film, said intermediate layer being made by  
6 a heat resistant non-metallic fiber substrate being impregnated with a  
7 fluororesin dispersion and then dried and sintered, and a surface layer  
8 laminated on said intermediate layer via an adhesive layer made by a

9       fluororesin film, said surface layer having a fabric structure using an  
10      element wire or wires made of a ferrous metal or having a structure in  
11      which said element wire or wires are arranged together.

1           4. A heat resistant laminated conveyor belt comprising a belt  
2      core layer made by a heat resistant non-metallic fiber substrate being  
3      impregnated with a fluororesin dispersion and then dried and sintered,  
4      an intermediate layer laminated on said belt core layer via an adhesive  
5      layer made by a fluororesin film, said intermediate layer being made by  
6      a heat resistant non-metallic fiber substrate being impregnated with a  
7      fluororesin dispersion and then dried and sintered, and a surface layer  
8      laminated on said intermediate layer via an adhesive layer made by a  
9      fluororesin film, said surface layer having a fabric structure using an  
10     element wire or wires made of at least one of a non-ferrous metal,  
11     inorganic compound, organic compound and carbon or having a  
12     structure in which said element wire or wires are arranged together.

1           5. A heat resistant laminated conveyor belt as claimed in Claim  
2      1, wherein said ferrous metal is steel of iron steel, carbon steel,  
3      stainless steel or the like.

1           6. A heat resistant laminated conveyor belt as claimed in Claim  
2      3, wherein said ferrous metal is steel of iron steel, carbon steel,  
3      stainless steel or the like.

1           7. A heat resistant laminated conveyor belt as claimed in Claim  
2      2, wherein said non-ferrous metal is at least one of aluminum, copper  
3      and titanium, said inorganic compound is at least one of glass, alumina,  
4      silica, alumina silica and zirconia and said organic compound is at

5 least one of polyetheretherketone, polyimide, polyamideimide,  
6 polyetherimide, polyphenylene sulfide and aromatic allylate.

1       8. A heat resistant laminated conveyor belt as claimed in Claim  
2     4, wherein said non-ferrous metal is at least one of aluminum, copper  
3     and titanium, said inorganic compound is at least one of glass, alumina,  
4     silica, alumina silica and zirconia and said organic compound is at  
5     least one of polyetheretherketone, polyimide, polyamideimide,  
6     polyetherimide, polyphenylene sulfide and aromatic allylate.

1       9. A heat resistant laminated conveyor belt as claimed in Claim  
2     1, wherein said heat resistant non-metallic fiber substrate is of at least  
3     one of a glass fiber, carbon fiber, aramide fiber, aromatic allylate fiber  
4     and polyparaphenylenebenzobisoxazole (PBO) fiber.

1       10. A heat resistant laminated conveyor belt as claimed in  
2     Claim 2, wherein said heat resistant non-metallic fiber substrate is of  
3     at least one of a glass fiber, carbon fiber, aramide fiber, aromatic  
4     allylate fiber and polyparaphenylenebenzobisoxazole (PBO) fiber.

1       11. A heat resistant laminated conveyor belt as claimed in  
2     Claim 3, wherein said heat resistant non-metallic fiber substrate is of  
3     at least one of a glass fiber, carbon fiber, aramide fiber, aromatic  
4     allylate fiber and polyparaphenylenebenzobisoxazole (PBO) fiber.

1       12. A heat resistant laminated conveyor belt as claimed in  
2     Claim 4, wherein said heat resistant non-metallic fiber substrate is of  
3     at least one of a glass fiber, carbon fiber, aramide fiber, aromatic  
4     allylate fiber and polyparaphenylenebenzobisoxazole (PBO) fiber.

1       13. A heat resistant laminated conveyor belt as claimed in

2       Claim 1, wherein said adhesive layer is a resin film layer of a  
3       polytetrafluoroethylene (PTFE) resin, denatured polytetrafluoroethylene  
4       (denatured PTFE) resin, tetrafluoroethylene hexafluoropropylene  
5       copolymer (FEP) resin, tetrafluoroethylene perfluoroalkoxyethylene  
6       copolymer (PFA) resin, ethylene tetrafluoroethylene copolymer (ETFE)  
7       resin, ethylene chlorotrifluoroethylene copolymer (ECTFE) resin or the  
8       like.

1           14. A heat resistant laminated conveyor belt as claimed in  
2       Claim 2, wherein said adhesive layer is a resin film layer of a  
3       polytetrafluoroethylene (PTFE) resin, denatured polytetrafluoroethylene  
4       (denatured PTFE) resin, tetrafluoroethylene hexafluoropropylene  
5       copolymer (FEP) resin, tetrafluoroethylene perfluoroalkoxyethylene  
6       copolymer (PFA) resin, ethylene tetrafluoroethylene copolymer (ETFE)  
7       resin, ethylene chlorotrifluoroethylene copolymer (ECTFE) resin or the  
8       like.

1           15. A heat resistant laminated conveyor belt as claimed in  
2       Claim 3, wherein said adhesive layer is a resin film layer of a  
3       polytetrafluoroethylene (PTFE) resin, denatured polytetrafluoroethylene  
4       (denatured PTFE) resin, tetrafluoroethylene hexafluoropropylene  
5       copolymer (FEP) resin, tetrafluoroethylene perfluoroalkoxyethylene  
6       copolymer (PFA) resin, ethylene tetrafluoroethylene copolymer (ETFE)  
7       resin, ethylene chlorotrifluoroethylene copolymer (ECTFE) resin or the  
8       like.

1           16. A heat resistant laminated conveyor belt as claimed in  
2       Claim 4, wherein said adhesive layer is a resin film layer of a

3 polytetrafluoroethylene (PTFE) resin, denatured polytetrafluoroethylene  
4 (denatured PTFE) resin, tetrafluoroethylene hexafluoropropylene  
5 copolymer (FEP) resin, tetrafluoroethylene perfluoroalkoxyethylene  
6 copolymer (PFA) resin, ethylene tetrafluoroethylene copolymer (ETFE)  
7 resin, ethylene chlorotrifluoroethylene copolymer (ECTFE) resin or the  
8 like.

1       17. A heat resistant laminated conveyor belt as claimed in  
2 Claim 1, wherein said surface layer having the fabric structure using  
3 the element wire or wires or having the structure in which the element  
4 wire or wires are arranged together is a plurality of layers laminated  
5 one on another via an adhesive layer or layers.

1       18. A heat resistant laminated conveyor belt as claimed in  
2 Claim 2, wherein said surface layer having the fabric structure using  
3 the element wire or wires or having the structure in which the element  
4 wire or wires are arranged together is a plurality of layers laminated  
5 one on another via an adhesive layer or layers.

1       19. A heat resistant laminated conveyor belt as claimed in  
2 Claim 3, wherein one or both of said intermediate layer and belt core  
3 layer on the inner side of said surface layer are a plurality of layers.

1       20. A heat resistant laminated conveyor belt as claimed in  
2 Claim 4, wherein one or both of said intermediate layer and belt core  
3 layer on the inner side of said surface layer are a plurality of layers.

1       21. A heat resistant laminated conveyor belt manufacturing  
2 method comprising:

3       a first step of forming a belt core layer by a heat resistant non-

4 metallic fiber substrate being impregnated with a fluororesin dispersion  
5 and then dried and sintered and a second step of lapping a surface  
6 layer over said belt core layer via an adhesive layer made by a  
7 fluororesin film, said surface layer having a fabric structure using an  
8 element wire or wires made of a ferrous metal or having a structure in  
9 which said element wire or wires are arranged together, and bonding  
10 them together with said belt core layer by a heat sealing lamination  
11 process.

1       22. A heat resistant laminated conveyor belt manufacturing  
2 method comprising:

3       a first step of forming a belt core layer by a heat resistant non-  
4 metallic fiber substrate being impregnated with a fluororesin dispersion  
5 and then dried and sintered and a second step of lapping a surface  
6 layer over said belt core layer via an adhesive layer made by a  
7 fluororesin film, said surface layer having a fabric structure using an  
8 element wire or wires made of at least one of a non-ferrous metal,  
9 inorganic compound, organic compound and carbon or having a  
10 structure in which said element wire or wires are arranged together,  
11 and bonding them together with said belt core layer by a heat sealing  
12 lamination process.

1       23. A heat resistant laminated conveyor belt manufacturing  
2 method comprising:

3       a first step of forming a belt core layer by a heat resistant non-  
4 metallic fiber substrate being impregnated with a fluororesin dispersion  
5 and then dried and sintered, a second step of forming an intermediate

6 layer by a heat resistant non-metallic fiber substrate being impregnated  
7 with a fluororesin dispersion and then dried and sintered and lapping it  
8 over said belt core layer via an adhesive layer made by a fluororesin  
9 film and a third step of lapping a surface layer over said intermediate  
10 layer via an adhesive layer made by a fluororesin film, said surface  
11 layer having a fabric structure using an element wire or wires made of a  
12 ferrous metal or having a structure in which said element wire or wires  
13 are arranged together, and bonding them together with said belt core  
14 layer and intermediate layer by a heat sealing lamination process.

1           24. A heat resistant laminated conveyor belt manufacturing  
2 method comprising:

3           a first step of forming a belt core layer by a heat resistant non-  
4 metallic fiber substrate being impregnated with a fluororesin dispersion  
5 and then dried and sintered, a second step of forming an intermediate  
6 layer by a heat resistant non-metallic fiber substrate being impregnated  
7 with a fluororesin dispersion and then dried and sintered and lapping it  
8 over said belt core layer via an adhesive layer made by a fluororesin  
9 film and a third step of lapping a surface layer over said intermediate  
10 layer via an adhesive layer made by a fluororesin film, said surface  
11 layer having a fabric structure using an element wire or wires made of  
12 at least one of a non-ferrous metal, inorganic compound, organic  
13 compound and carbon or having a structure in which said element wire  
14 or wires are arranged together, and bonding them together with said  
15 belt core layer and intermediate layer by a heat sealing lamination  
16 process.

1           25. A heat resistant laminated conveyor belt manufacturing  
2 method as claimed in Claim 23, wherein one or both of said  
3 intermediate layer and belt core layer on the inner side of said surface  
4 layer are a plurality of layers lapped one on another via an adhesive  
5 layer or layers and then applied with the heat sealing lamination  
6 process.

1           26. A heat resistant laminated conveyor belt manufacturing  
2 method as claimed in Claim 24, wherein one or both of said  
3 intermediate layer and belt core layer on the inner side of said surface  
4 layer are a plurality of layers lapped one on another via an adhesive  
5 layer or layers and then applied with the heat sealing lamination  
6 process.